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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 44655-356508													
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or printed name _____		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 5px;">Application Number 10/588,856</td> <td colspan="2" style="padding: 5px;">Filed August 9, 2006</td> </tr> <tr> <td colspan="4" style="padding: 5px;">First Named Inventor Kari LAITINEN</td> </tr> <tr> <td colspan="2" style="padding: 5px;">Art Unit 3676</td> <td colspan="2" style="padding: 5px;">Examiner PATEL, Vishal A.</td> </tr> </table>		Application Number 10/588,856		Filed August 9, 2006		First Named Inventor Kari LAITINEN				Art Unit 3676		Examiner PATEL, Vishal A.	
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<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> applicant/inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) <input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>41,844</u> <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____ </td> <td style="width: 50%; vertical-align: top;"> _____ / Christine H. McCarthy / Signature Christine H. McCarthy Typed or printed name (202) 289-1313 Telephone number May 14, 2009 Date </td> </tr> </table> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p>				<input type="checkbox"/> applicant/inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) <input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>41,844</u> <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____	_____ / Christine H. McCarthy / Signature Christine H. McCarthy Typed or printed name (202) 289-1313 Telephone number May 14, 2009 Date										
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<input type="checkbox"/> *Total of _____ forms are submitted.															

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Kari LAITINEN	Conf. No.:	2019
Serial No.:	10/588,856	Art Unit:	3676
Filed:	August 9, 2006	Examiner:	PATEL, Vishal A.
For:	ARRANGEMENT IN A MECHANICAL SHAFT SEAL		

ATTACHMENT SHEETS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

MAIL STOP AF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellant hereby requests that a panel of examiners formally review the legal and factual basis of the rejection in the above-identified application prior to the filing of an appeal brief.

Claims 1-9 are pending and have been finally rejected under 35 U.S.C. 102 as being allegedly anticipated by Yamasaki et al. (US 6,357,753; hereafter “Yamasaki”). Appellant asserts that the prior art rejection must be overturned because the cited prior art reference fails to teach or suggest all the features recited in combination in the rejected claims. More specifically, Yamasaki fails to disclose, teach or suggest the claimed arrangement, wherein “at least one of the first additional parts arranged to transfer the rotation torque of at least one of the shaft and the second additional part receiving torque is a super elastic memory metal element arranged to bend within the limits of the reversible deformation of the material,” as recited in independent claim 1 and its dependent claims 2-9.

- **Yamasaki Fails to Teach or Suggest Claimed Additional Parts Made of Super Elastic Memory Metal**

Yamasaki’s cylindrical holder 21 (allegedly corresponding to the claimed second additional part) and rear end portion 40 (allegedly corresponding to the claimed first additional part) are disclosed as being made of titanium; however, Yamasaki fails to teach or suggest that those parts, or their material (titanium), may or should have super elastic memory metal characteristics. Furthermore, Yamasaki fails to teach or suggest that the cylindrical holder 21 or

the rear end portion 30 are arranged to transfer torque of the rotating parts in the mechanical shaft seal. In fact, the selection of titanium for components 21 and 40 in Yamasaki would be understood by one of ordinary skill in the art as a selection based on the good strength characteristics of titanium. However, Yamasaki fails to teach or suggest any motivation for modifying the material of these components to be a super elastic memory metal.

In response to these arguments, the Final Rejection asserted that these arguments are not persuasive because the Office Action has concluded that Yamasaki's "metal members are super elastic memory metal elements (e.g., titanium or alloys or stainless steel). Furthermore, it is noted that applicant has not defined any particular material in the specification that is a super elastic memory metal element."

Appellant submits that the term "super elastic memory metal" is a term of art understood by one of ordinary skill in the art to be an alloy rather than a pure metal. Such a term of art is known in the prior art as evidenced by previously submitted patent applications, WO 2004/098450 and US 2003/0196298, which pertain to different kinds of products made at least partly from "super-elastic memory metal." Both references disclose the well-known properties of a super-elastic materials and clearly define that one such metal is the metal alloy nitinol (NiTi). Further, the references clearly evidence that super-elastic memory metals are produced from metal alloys, not from pure metals, such as titanium.

Nitinol is one preferred alloy, but it is only one example of super-elastic memory metals. Such memory metals provide super elasticity of the material, which can provide a much larger reversible deformation compared with other common metals when the metal is placed under the influence of torque.

Therefore, according to the claimed invention, various parts of the mechanical shaft seal are formed from super elastic memory metal elements and are arranged to bend within the limits of the reversible deformation of that material. The additional parts of a mechanical shaft seal transferring torque from the shaft of the device are formed as super-elastic memory metal elements. However, the kind of material that is used for providing the other parts of the mechanical shaft seal is not relevant to the patentability of the claimed invention over Yamasaki.

As explained previously in Appellant's specification, the problem with prior art mechanical shaft seals is that the additional parts transferring torque from the shaft of the device and/or additional parts receiving the torque included in the shaft seal are subjected to wear or are broken at the points, from which torque is transferred from one part to another, for instance to the sliding surface parts. The same problem occurs with the parts intended to be non-rotating at points, from which the non-rotating parts are locked to the device or to a separate frame part. The torque caused by frictional force formed between the plane surfaces of the non-rotating parts and the rotating parts in the mechanical shaft seal wears and breaks the additional parts that serve to transfer the rotating motion of the device shaft to the rotating parts of the mechanical seal, or which tend to be used for preventing the rotating motion produced by the torque caused by the frictional force in the non-rotating parts of the mechanical shaft seal.

This phenomenon causes the mechanical shaft seal to be prematurely damaged in such a manner that the mechanical seal no longer operates as planned for sealing the gap between the rotating shaft and the static parts of the device. Additionally, the torque causes the sliding surfaces of the sliding surface parts in the mechanical seal to deform so that the mechanical seal no longer operates as intended.

- **Yamasaki Fails to Teach or Suggest Claimed First Additional Parts Arranged to Transfer the Rotation Torque**

Moreover, in Yamasaki's mechanical seal, the additional parts and drive pins transferring the torque from the shaft of the device and the additional parts receiving the torque are denoted as 45 and 24 (see col. 5, lines 20 to 63 and col. 6, lines 47 to 65, respectively). However, Yamasaki fails to teach or suggest the material of which the drive pins are made. The cylindrical holder 21 houses an annular seal ring element 22 having the sliding seal surface 25. The seal surface 25 is pressed against the rotary seal ring 35. Thus, the holder 21 does not transfer or receive torque. Furthermore, Yamasaki teaches that the holder 21 may be made of pure titanium, which is not a super-elastic or memory metal as explained above. In fact, Yamasaki fails to teach or suggest the use of super-elastic memory metals in any way. Therefore, the present invention is novel over Yamasaki.

• **CONCLUSION**

Thus, Yamasaki fails to disclose, teach or suggest the claimed arrangement, wherein "at least one of the first additional part arranged to transfer the rotation torque of at least one of the shaft and the second additional part receiving torque is a super elastic memory metal element arranged to bend within the limits of the reversible deformation of the material," as recited in independent claim 1 and its dependent claims 2-9.

Therefore, it is respectfully requested that the panel return a decision concurring with Appellant's position and eliminating the need to file an appeal brief because there are clear legal and/or factual deficiencies in the appealed rejections. Specifically, the cited prior art fails to teach or suggest all of the features recited in the rejected claims. Therefore, claims 1-9 are patentable over Yamasaki.

It is requested that, if necessary to effect a timely response, this paper be considered a Petition for an Extension of Time sufficient to effect a timely response with the fee for such extensions and shortages in other fees, being charged, or any overpayment in fees being credited, to the Account of Barnes & Thornburg LLP, Deposit Account No. **02-1010** (44655-356508).

Respectfully submitted,
BARNES & THORNBURG LLP

/ Christine H. McCarthy /

Christine H. McCarthy
Reg. No. 41,844
Tel. No. (202) 371-6371

Date: 14 May 2009